

REMARKS

This is in response to the Office Action dated October 10, 207. In view of the foregoing amendments and following representations, reconsideration is respectfully requested.

By the above amendment, claims 29 and 31 are amended to provide clear antecedent basis for the recited elements. No new issues are raised by these amendments.

Initially, in item 1 (page 2) of the Office Action, the Examiner objects to the use of the term "extrusion" to describe the ingot that is produced by the method disclosed in the present application. However, the expression "extrusion ingot" is commonly used to describe cast ingots that are intended to be used for extrusion purposes. The expression "cast ingot" is a broader term that may also include ingots for other purposes such as milling or re-melting.

Next, in item 2 of the Office Action, claims 29-31 are rejected under 35 U.S.C. 112, second paragraph. In particular, the Examiner states that there is a lack of antecedent basis in the specification, including the drawings, for the limitation requiring that the "intermediate metal reservoir has an open top" as recited in claims 29 and 30. However, this feature is clearly supported on page 6, lines 4-7 of the specification as originally filed. This portion of the specification recites that:

"The intermediate reservoir 17 is open at the top (at 22) but a duct 20 is designed to pass the metal to the distribution chamber 5, which is located at a higher level, and on to the chills."

Further, the subject matter of claims 29 and 30 is clearly shown in Fig. 4 (see vertical inlet pipe 34 and vertical outlet pipe 35).

With respect to claim 31, the Examiner contends that it is not clear what is being claimed and where the support is in the specification for the claimed feature. Initially, it is noted that claim 31 is amended so as to depend from claim 27 which recites the duct that is referred to in claim 31. Note, claim 31 recites that the "duct communicates with the chill via a vertical outlet pipe." This arrangement is clearly described on page 7, lines 29 to page 8, line 1 of the specification as originally filed. The transfer duct 31 is described as including an inlet pipe 34 and an outlet pipe 35 that extends down into the mold cavity in the chill 28. Further, the subject matter claimed in claim 31 is clearly illustrated in Fig. 4 of the present application.

In view of the amendments to claims 29 and 31, and the above explanation of the support for the claimed subject matter, it is submitted that claims 29-31 are clearly in compliance with the requirements of 35 U.S.C. 112, second paragraph. Thus, the Examiner is respectfully requested to withdraw the rejection of claims 29-31 under 35 U.S.C. 112, second paragraph.

Next, on pages 3-5 of the Office Action, the claims are rejected over the prior art as follows:

Claims 21-23, 25-27 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62-110851; and

Claims 21-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCubbin (U.S. Patent No. 4,071,072) in view of JP 62-110,851.

It is submitted that the present invention, as defined in claims 21-31, clearly distinguishes over the applied prior art references for the following reasons.

JP 62-110,851 (hereinafter JP '851) relates, as formerly mentioned, to a method and device for continuous casting where a vacuum chamber is provided above a holding furnace to enable regulation (i.e. increase or decrease) of the metal head above the mold. However, with the solution disclosed in JP '851 it is not possible to apply a counter-pressure in the mold to control the metalostatic pressure in the solidification zone or the metal level in the mold. It is only possible to adjust the metal level in the holding furnace above the mold. The Examiner takes the position that the metal level can be adjusted in the vacuum chamber 9 of the JP '851 reference. The metal level in the vacuum chamber has, however, no influence on the metalostatic pressure in the mold since the chamber is under vacuum. The pressure in the mold is determined by the metal level in the furnace 1 and the counter pressure in the mold. Clearly, JP '851 has no counter pressure in the mold to compensate for any pressure in the furnace or the surroundings (as is the case with the present invention as defined in claim 21). And therefore, the JP '851 reference lacks any means for holding the metalostatic pressure at zero in the solidification zone of the mold.

The McCubbin reference is applied by the Examiner in a rejection of claims 21-31 in combination with JP '851. In this rejection, the Examiner relies on JP '851 to teach a vacuum chamber that decreases the metalostatic pressure against the mold wall. As described above, however, the JP '851 reference has no means to hold the metalostatic pressure at zero in the solidification zone of the mold. Therefore, any combination of the McCubbin and JP '851 references would not result in Applicant's invention as defined in independent claims 21 and 25.

Furthermore, since the limitations of claims 29-31 were not addressed in the previous rejection, the Examiner is requested to specifically indicate where these features are disclosed in the applied prior art references.

In view of the above, it is submitted that the present application is now clearly in condition for allowance. The Examiner therefore is requested to pass this case to issue.

In the event that the Examiner has any comments or suggestions of a nature necessary to place this case in condition for allowance, then the Examiner is requested to contact Applicant's undersigned attorney by telephone to promptly resolve any remaining matters.

Respectfully submitted,

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